

Appl. No.: 09/844,947
Amdt. Dated: 23 May 2007
Reply to Office Action of: March 12, 2007

Amendments to the Specification

Please amend the Specification on page 3, lines 2-13 as follows (insertions underlines, deletions struck through):

Embodiments of the invention provide a method for producing $\text{SiO}_2\text{-TiO}_2$ glass substrates with low variations in CTE within the substrate. The method involves transporting silica and titania precursors in vapor form to deposition burners. The precursors exit the deposition burners where they react to form fine $\text{SiO}_2\text{-TiO}_2$ particles ("soot"). The soot collects on a deposition surface to form a porous preform. The method further includes consolidating the porous preform to give a dense $\text{SiO}_2\text{-TiO}_2$ glass in a separate step. Consolidating the glass in a separate step eliminates the need to capture the soot at consolidation temperatures. This allows the soot to be deposited at lower temperatures (typically, 200°C to 500°C lower) than possible with the conventional boule process. That is, the silica and titania particles are deposited at a temperature below that required to consolidate the porous perform into dense glass. $\text{SiO}_2\text{-TiO}_2$ glass having low OH content can be produced by exposing the preform to a dehydrating agent, such as chlorine or fluorine, prior to consolidation. Chlorine and/or fluorine treatment would also remove impurities from the glass which could result in seeds.